

## Exercise 1:

```
PS C:\> Set-Location -Path "C:\Program Files"
PS C:\Program Files> Set-Location -Path "C:\Program Files\docker\docker"
PS C:\Program Files\docker\docker> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
PS C:\Program Files\docker\docker>
```

1. Going to directory to run docker, ran docker images saw that there were no images yet

```
PS C:\Program Files\docker\docker> docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
80bce60046fa: Pull complete
55a738a15540: Pull complete
e19cf0706c62: Pull complete
de4cdd6c27d1: Pull complete
Digest: sha256:9775877f420d453ef790e6832d77630a49b32a92b7bedf330adf4d8669f6600e
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04
PS C:\Program Files\docker\docker>
```

2. Pulled an image of Ubuntu 16.04 from DockerHub

```
PS C:\Program Files\docker\docker> docker pull ubuntu:16.10
16.10: Pulling from library/ubuntu
dca7be20e546: Pull complete
40bca54f5968: Pull complete
61464f23390e: Pull complete
d99f0bcd5dc8: Pull complete
120db6f90955: Pull complete
Digest: sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Status: Downloaded newer image for ubuntu:16.10
docker.io/library/ubuntu:16.10
PS C:\Program Files\docker\docker>
```

3. Pulled newer version, Ubuntu 16.10 also from DockerHub

```
PS C:\Program Files\docker\docker> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
ubuntu 16.04 9ff95a467e45 3 weeks ago 135MB
ubuntu 16.10 7d3f705d307c 3 years ago 107MB
PS C:\Program Files\docker\docker>
```

4. Ran docker images again

```
PS C:\Program Files\docker\docker> docker rmi 7d3f705d307c
Untagged: ubuntu:16.10
Deleted: sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Deleted: sha256:7d3f705d307c7c225398e04d4c4f8512f64eb8a65959a1fb4514dfde18a047e7
Deleted: sha256:d9db289b9342d9617596cd6ee3bba988629e24d9afa5db4e4b0e4e491c65007d
Deleted: sha256:a87725e8597b97f2399bc3aa50b0e2eec903b8ce19055668d3befb012918205c
Deleted: sha256:38cf10a2801529348366953e9b933d3524360dedc91d3e4d5d7f941da0c973c9
Deleted: sha256:61172966249d43026dbd017eec3a9575e37bddf8a269a9f09ecb559d7bfe7fef
Deleted: sha256:57145c01eb80040fdd0a24cde20af4788605b49593188d4f7efab099af89a08e
PS C:\Program Files\docker\docker>
```

5. Deleted Ubuntu 16.10 image

```
PS C:\Program Files\Docker\Docker> docker run ubuntu:16.04 /bin/echo 'Hello world!'
Hello world!
PS C:\Program Files\Docker\Docker>
```

6. Gave sample command to run

```
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
PS C:\Program Files\Docker\Docker>
```

7. Checked for containers, because ps command doesn't show stopped containers

```
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
2d1c140a87d3   ubuntu:16.04   "/bin/echo 'Hello wo..." 2 minutes ago   Exited (0) 2 minutes ago   optimistic_gagarin
PS C:\Program Files\Docker\Docker>
```

8. Added the -a flag

```
PS C:\Program Files\Docker\Docker> docker run ubuntu:16.04 /bin/bash
PS C:\Program Files\Docker\Docker>
```

9. Ran /bin/bash but nothing happened

```
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
94f11677f702   ubuntu:16.04   "/bin/bash" 36 seconds ago   Exited (0) 33 seconds ago   pensive_fermi
a677f0d58f51   ubuntu:16.04   "/bin/bash" 48 seconds ago   Exited (0) 46 seconds ago   zen_mccarthy
2d1c140a87d3   ubuntu:16.04   "/bin/echo 'Hello wo..." 3 minutes ago   Exited (0) 3 minutes ago   optimistic_gagarin
PS C:\Program Files\Docker\Docker>
```

10. Ran docker ps -a again \*accidentally called /bin/bash twice

```
PS C:\Program Files\Docker\Docker> docker run -it ubuntu:16.04 /bin/bash
root@3d8d453c42f5:/#
```

11. Added the -it flag

```
root@3d8d453c42f5:/# pwd
/
root@3d8d453c42f5:/# ls
bin boot dev etc home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
root@3d8d453c42f5:/#
```

12. Tried pwd and ls in BASH

```
PS C:\Program Files\Docker\Docker> docker run -d ubuntu:16.04 /bin/sleep
94e2c02f3d7fbec0a9f879abed294b9aa30e885735097cf0b1b0d3b7fed47ebb
PS C:\Program Files\Docker\Docker>
```

13. Adding -d flag to /bin/sleep 3600

```
PS C:\Program Files\Docker\Docker> docker run -d ubuntu:16.04 /bin/sleep 3600
51fb9476040e6d9428efd38767b146727d1b91b0bff98d73d46b9044ff329481
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
51fb9476040e   ubuntu:16.04   "/bin/sleep 3600" 7 seconds ago   Up 5 seconds   elated_yonath
PS C:\Program Files\Docker\Docker>
```

#### 14. Using bin sleep

```
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
51fb9476040e   ubuntu:16.04  "/bin/sleep 3600"       7 seconds ago  Up 5 seconds                elated_yonath
PS C:\Program Files\Docker\Docker> docker exec -it 51f /bin/bash
root@51fb9476040e:/# ps aux
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.0   4372   664 ?        Ss   17:30   0:00 /bin/sleep 3600
root          17  0.3  0.0  18236  3308 pts/0    Ss   17:31   0:00 /bin/bash
root          18  0.0  0.0   34420  2856 pts/0    R+   17:31   0:00 ps aux
root@51fb9476040e:/# exit
exit
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
51fb9476040e   ubuntu:16.04  "/bin/sleep 3600"       About a minute ago  Up About a minute                elated_yonath
PS C:\Program Files\Docker\Docker>
```

#### 15. Using docker exec

```
Remove one or more containers
PS C:\Program Files\Docker\Docker> docker rm 3a9
3a9
PS C:\Program Files\Docker\Docker> docker rm e77
e77
PS C:\Program Files\Docker\Docker> docker rm ob6
Error: No such container: ob6
PS C:\Program Files\Docker\Docker> docker rm 592
592
PS C:\Program Files\Docker\Docker> docker rm 94e
94e
PS C:\Program Files\Docker\Docker> docker rm 816
816
PS C:\Program Files\Docker\Docker> docker rm 3d8
3d8
PS C:\Program Files\Docker\Docker> docker rm 94f
94f
PS C:\Program Files\Docker\Docker> docker rm a67
a67
PS C:\Program Files\Docker\Docker> docker rm 2d1
2d1
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
0b67d2a82eb2   ubuntu:16.04  "/bin/sleep"           6 minutes ago  Exited (1) 6 minutes ago                amazing_elgamal
PS C:\Program Files\Docker\Docker> docker rm 0b6
0b6
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
PS C:\Program Files\Docker\Docker>
```

#### 16. Deleted all stuff \*\*accidentally added more than was needed